UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK
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MATTHEW J. VALENTE and JAMES VALENTE,

Plaintiffs,

MEMORANDUM & ORDER
08-CV-4192 (MKB)

v.

TEXTRON, INC. and E-Z GO DIVISION OF TEXTRON INC.,

Defendants.
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MARGO K. BRODIE, United States District Judge:

Plaintiffs Matthew Valente and James Valente filed the instant products liability action in New York state court against Defendants Textron and the E-Z Go Division of Textron. Matthew Valente was seriously injured while operating a golf cart made by Defendants and alleges that Defendants are liable under a theory of strict liability, negligence, breach of implied warranty and failure to warn.[1] Matthew Valente's father, James Valente, brings a claim for loss of consortium. Plaintiffs allege that the golf car at issue was defectively designed because it only had a rear-wheel braking system and did not have a seatbelt restraint system.[2] Defendants

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[1] Plaintiffs also brought a claim for breach of express warranty but withdrew that claim in their opposition brief. (Pl. Opp'n 58.)

[2] Plaintiffs also allege in the Complaint that the placement of the parking brake was a design defect. Plaintiffs did not present any evidence, or advance any arguments, in support of the alleged design defect in the motion pending before the Court. Still, Plaintiffs request that the Court "not strike plaintiffs' claims in this regard or preclude plaintiffs from presenting evidence on that point at the time of trial, inasmuch as plaintiffs wish to reserve the opportunity to argue the negligent design and placement of a parking, or service, brake immediately above and adjacent to the regular brake, particularly in the event that defendant attempts to contend that the parking brake came into play in the happenings of the accident." (Pl. Opp'n 57.) Plaintiffs have not presented any evidence to support their claim that the golf car was defectively designed because of the placement of the parking brake, and, therefore, this claim must be dismissed.

removed the action to this Court and now move to preclude the testimony of Plaintiffs' experts, Kristopher Seluga and Bruce Gorsak, and for summary judgment. Plaintiffs also move to preclude the testimony of Defendants' experts, Matthew Schwall and David Bizzak, and for summary judgment. The Court held a *Daubert* hearing on January 31 and February 1, 2013 with respect to Plaintiffs' experts.[3] The Court heard argument on the parties' motions on February 28, 2013. For the reasons set forth below, the Court grants Defendants' motions to preclude the testimony of Plaintiffs' experts and for summary judgment. Plaintiffs' motions to preclude the testimony of Defendants' experts and for summary judgment are denied.

I. Background

In August of 2007, plaintiff Matthew Valente ("Matthew")[4] was working as a cart and range attendant at La Tourette Golf Course ("La Tourette") on Staten Island. (Def. 56.1 ¶¶ 1, 4.) Matthew was 18 years old at the time. (Pl. 56.1 ¶ 4.) As an attendant, Matthew was responsible for, among other things, driving golf cars between the pen and the area where golfers picked them up. (Def. 56.1 ¶ 5; Pl. 56.1 Reply ¶ 5.) Matthew was trained at La Tourette regarding how to operate a golf car. (Def. 56.1 ¶ 6; Pl. 56.1 Reply ¶ 6.)

On August 18, 2007, the day of the accident, Matthew was driving an E-Z-Go golf car. (Def. 56.1 ¶ 3; Pl. 56.1 Reply ¶ 3.) Textron manufactures E-Z-Go golf cars. (Def. 56.1 ¶ 2.) Matthew was driving on the path to the 10th hole, and his hat blew off. (Def. 56.1 ¶ 10.) Along the left side of the path, there was a series of posts connecting a rope. (Deposition of Matthew

[3] After reviewing the parties' submissions, the Court determined that a *Daubert* hearing would not be necessary with respect to Plaintiffs' challenges to the testimony of Defendants' experts.

[4] The parties refer to Matthew Valente as "Matthew" or "Matt" in their submissions. For the sake of clarity, the Court will refer to Matthew Valente as "Matthew" in this Order because he shares the same last name as his father.

Valente ("M. Valente Dep.") 88:21–89:11.) Defendants claim that Matthew reached back to retrieve his hat, removing his foot from the accelerator and stepping on the brake in an effort to stop the car. (Def. 56.1 ¶ 11.) Matthew claims that, when his hat blew off, he did not attempt to reach for his hat or turn his body. (Pl. 56.1 Reply ¶ 11.) According to Matthew, the path turned slightly to the left and the only adjustment to the steering that he made was to turn the steering wheel slightly "to maintain a straight course on the path."[5] (Pl. 56.1 Reply ¶ 14.) He simply applied the brakes, and the golf car yawed, or fishtailed. (Pl. 56.1 Reply ¶¶ 17–18.) Matthew remembers the car sliding, coming out of his seat and hitting his head. (Def. 56.1 ¶ 12; Pl. 56.1 Reply ¶ 12.) The golf car rolled over onto its passenger side. (Def. 56.1 ¶ 13; Tr.[6] 25:2–8.) The parties agree that the golf car did not have any mechanical difficulties the day of the accident. (Def. 56.1 ¶ 8; Pl. 56.1 Reply ¶ 8.) Matthew suffered serious injuries, including a spinal fracture, and is paralyzed below the waist with partial paralysis in his upper body. (Pl. 56.1 ¶ 13.)

II. Admissibility of Expert Testimony

Rule 702 of the Federal Rules of Evidence provides that "[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case." Fed. R. Evid. 702. The proponent of the expert testimony bears the burden of "establishing by a preponderance of the evidence that the admissibility requirements of Rule 702

[5] However, at Matthew's deposition, he testified that he did not turn the steering wheel at all. (Deposition of Matthew Valente ("M. Valente Dep.") 87:14–88:4.)

[6] "Tr." refers to the transcript from the *Daubert* hearing.

are satisfied." *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007) (citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592 n.10 (1993))). However, "the district court is the ultimate 'gatekeeper.'" *Id.* (citations omitted); *see also United States v. Farhane*, 634 F.3d 127, 158 (2d Cir. 2011), *cert. denied*, 132 S. Ct. 833 (2011) ("The law assigns district courts a 'gatekeeping' role in ensuring that expert testimony satisfies the requirements of Rule 702." (citation omitted)).

Before permitting a person to testify as an expert under Rule 702, the court must make the following findings: (1) the witness is qualified to be an expert; (2) the opinion is based upon reliable data and methodology; and (3) the expert's testimony on a particular issue will "assist the trier of fact." *Nimely v. City of New York*, 414 F.3d 381, 396–97 (2d Cir. 2005); *see also United States v. Cruz*, 363 F.3d 187, 192 (2d Cir. 2004) (the court is tasked with "ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand" (quoting *Daubert*, 509 U.S. at 597)). In *Daubert v. Merrell Dow Pharmaceuticals*, the Supreme Court set forth a list of factors, in addition to the criteria set forth in Rule 702, that bear on the determination of reliability: "(1) whether a theory or technique has been or can be tested; (2) 'whether the theory or technique has been subjected to peer review and publication;' (3) the technique's 'known or potential rate of error' and 'the existence and maintenance of standards controlling the technique's operation;' and (4) whether a particular technique or theory has gained general acceptance in the relevant scientific community." *Williams*, 506 F.3d at 160 (quoting *Daubert*, 509 U.S. at 593–94); *see also Zaremba v. Gen. Motors Corp.*, 360 F.3d 355, 358 (2d Cir. 2004) (same). The *Daubert* inquiry for reliability is a "flexible one" and does not "constitute a definitive checklist or test," *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 150

(1999) (citation omitted), and, thus, the *Daubert* factors "neither necessarily nor exclusively appl[y] to all experts or in every case," *id.* at 141.

The district court is afforded "broad latitude when it decides *how* to determine reliability as it enjoys [with] respect to its ultimate reliability determination." *Kumho Tire*, 526 U.S. at 142 (emphasis in original). Expert testimony should be excluded if it is "speculative or conjectural." *Major League Baseball Prop., Inc. v. Salvino, Inc.*, 542 F.3d 290, 311 (2d Cir. 2008) (quoting *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir. 1996)). When an expert's opinion is based on data or methodologies "that are simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the exclusion of that unreliable opinion testimony." *Ruggiero v. Warner-Lambert Co.*, 424 F.3d 249, 253 (2d Cir. 2005) (citation omitted); *see also Nimely*, 414 F.3d at 396 ("[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered." (alteration in original) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997))). Nevertheless, "in accordance with the liberal admissibility standards of the Federal Rules of Evidence, only serious flaws in reasoning or methodology will warrant exclusion." *In re Fosamax Products Liab. Litig.*, 645 F. Supp. 2d 164, 173 (S.D.N.Y. 2009) (citing *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002)).

a. Defendants' Motion to Preclude

Defendants seek to exclude the testimony of Plaintiffs' experts, Kristopher Seluga and Bruce Gorsak. Defendants do not dispute the expert qualifications of Seluga but contend that Seluga's computer simulation model is not reliable because it has not been validated and uses flawed input values. (Def. Mem. 5–18.) With respect to Gorsak, Defendants argue that he lacks

the requisite qualifications to testify as an expert and that his opinions are unreliable and manufactured for the purpose of litigation. (Def. Mem. 19–22.) For the following reasons, the Court finds that neither Seluga nor Gorsak meet the requirements of Rule 702, and, therefore, Defendants' motion to preclude the testimony of Seluga and Gorsak is granted.

i. Kristopher Seluga

Kristopher Seluga is a forensic engineer and accident reconstructionist. (Tr. 4:2–5.) Seluga has a master's degree and a bachelor's degree in mechanical engineering from Massachusetts Institute of Technology. (Tr. 4:21–23.) He is a licensed professional engineer in Connecticut and New York. (Tr. 5:5–7.) Seluga has previously published four articles related to golf car safety, and in a 2006 article he addressed the yaw instability of a golf car during rear-wheel braking. (Tr. 8:2–5, 9:24–10:6.) Seluga testified that, based on his prior research and study of braking systems, he believes that rear-wheel brakes are unstable and "cause the car to lose its directional stability, in other words, spin around." (Tr. 13:3–10.)

In October of 2007, Seluga went to La Tourette to inspect the accident site. (Tr. 23:24–24:2.) Seluga took photographs and measurements of the golf car that Matthew was driving the day of the accident. (Tr. 24:18–22.) Upon inspection, Seluga saw evidence, including a broken hip restraint and grass in one of the wheels, consistent with a rollover onto the passenger side of the golf car. (Tr. 25:2–8.) Seluga measured the slope where the accident occurred and found that the hill was between seven and nine degrees. (Tr. 25:13–16.) Seluga performed speed tests with the actual golf car, using a hand-held GPS, in two locations — a relatively flat portion of the path and the hill where the accident occurred. (Tr. 34:23–35:2.) The maximum speed he obtained was ten miles per hour on the flat portion and ten and a half miles per hour on the hill. (Tr. 35:3–8.) Seluga testified that he noticed that the golf car was "running very rough," and, as

a result, he believed that the golf car was running slower than it generally would. (Tr. 35:9–19.) Seluga did not calculate the center of gravity of the subject golf car as part of his inspection. (Tr. 32:13–17.) Instead, he calculated the center of gravity based on data that he was later provided. (Tr. 32:16–33:10; Pl. Ex. 4.)

While at the golf course, Seluga conducted various tests to determine the coefficient of friction. (Tr. 28:5–9, 29:9–30:4.) The coefficient of friction is the "ratio between the amount of force it takes to slide an object across another surface divided by the amount of weight that is pushing the two objects together." (Tr. 20:4–10.) With a lower coefficient of friction, there is less braking force, and, as a result, an object will take longer to come to a stop. (Tr. 21:1–7.) There are two different forms of friction that can be tested: static friction and dynamic friction. (Tr. 20:16–25.) Static friction is the amount of friction that it takes for an object to start moving, and dynamic friction is the amount of friction that is generated once the object is moving. (Tr. 20:22–25.) Both methods for testing the coefficient of friction are accepted, but Seluga testified that the static friction test is not as precise as the dynamic friction test. (Tr. 89:4–17.) According to Seluga, the static test, when performed by the same individual, has a margin of error of approximately ten percent. (Tr. 90:4–11.)

Seluga first performed braking tests of the golf car by the maintenance shed in order to determine the coefficient of friction. (Tr. 28:4–9.) Seluga testified that he did not conduct the test for the dynamic coefficient of friction on the actual path because he was "aware of the instability problem and . . . was unsure if [conducting the test] would produce a dangerous effect, in other words, it would do what Mr. Valente claimed it did at the time of his accident." (Tr. 30:13–18.) Seluga claims that he chose the area by the maintenance shed because it was a "relatively flat area," which "makes it a little easier to do the calculations." (Tr. 28:10–14.) As

can be seen in the photograph Seluga took that day, the path by the maintenance shed had a significant amount of sand on it. (Def. Ex. F.) This area is next to a dumpster and a sandy area, unlike the actual path where the accident occurred, which is bordered by grass. (Tr. 92:22–93:3.) Moreover, the maintenance shed is where vehicles are refueled, maintenance work is performed and a pressure washer is used to wash the "grime, oil, [and] dirt off the vehicles." (Tr. 236:19–24.) Contaminants such as sand, gas, cleaning fluids and oil can affect the coefficient of friction. (Tr. 236:24–237:1.)

Seluga described how he performed the test for the dynamic coefficient of friction at the maintenance shed path as follows:

> I attached an accelerometer to the vehicle and then I recorded the acceleration on the accelerometer as I drove the vehicle up to its top speed. I slammed on the brakes to get the rear wheels to slide. Then I would turn the car around and do that again, and I did that four times. . . . I obtained measurements of the acceleration of the car. Then I used those to determine what the coefficient of friction between the tires and road must have been in order to produce that amount of deceleration.

(Tr. 28:15–29:1.) Based on these tests, Seluga found that the dynamic coefficient of friction by the maintenance shed was between 0.53 and 0.57. (Tr. 102:25–103:9.) However, in conducting these tests, Seluga failed to account properly for the accelerometer's gravity bias. (Tr. 51:20–22, 99:4–14.) The gravity bias is the effect that gravity has on the accelerometer. (Tr. 51:10–19.) Accelerometers read the acceleration caused by gravity in addition to the acceleration caused by the golf car's movement. (Tr. 227:25–228:1.) If an accelerometer is on a slope as opposed to a flat surface, the accelerometer will not read zero, even if the golf car is not moving. (Tr. 51:10–19, 228:2–7.) Here, the path by the shed contained a 1.7 degree slope at the beginning and a 3 degree slope at the end, with a depression between the two rising slopes. (Tr. 94:13–22.) Seluga set his accelerometer to zero at the beginning of his run and, thus, only accounted for the 1.7

degree slope at the beginning of the run. (Tr. 51:20–22, 99:4–14.) He did not correct his results for the 3 degree slope at the end of the run. (Tr. 51:20–22, 99:4–14.) After reviewing the criticisms of Matthew Schwall, one of Defendants' experts, Seluga acknowledged that he should have measured the bias at the end and recalculated the coefficient of friction. (Tr. 51:23–52:22.) According to Seluga, after he corrected his calculations, the coefficient of friction for the dynamic tests by the maintenance shed increased between 0.54 and 0.58.[7] (Tr. 52:20–22, 102:18–24.)

Seluga also conducted a static test, also known as a drag sled test, on the path by the maintenance shed and the actual slope. (Tr. 29:11–30:4, 83:23–84:2.) The drag sled test involves pulling an exemplar tire and some known amount of weight across the path in order to measure the static coefficient of friction, i.e. the friction required to start moving an object. (Tr. 29:11–30:4.) When Seluga performed the drag sled test by the maintenance shed, he found

[7] Schwall testified that Seluga failed to adequately correct the problem. (Tr. 231:4–232:9.) According to Schwall, the equation that Seluga used to correct the gravitational bias operates from the assumption that the accelerometer was zeroed on flat ground with the measurement taken on an upward slope. (Tr. 232:2–5.) Here, Seluga zeroed the accelerometer on a downward slope and then took the measurement on an upward slope, which, Schwall claims, compounds the problem. (Tr. 231:8–15.) When Schwall corrected the bias, he found that the coefficient of friction for the dynamic tests by the maintenance shed was at least 0.61. (Tr. 235:21–25.) Schwall then ran Seluga's simulation model with a 0.61 coefficient of friction, and that the simulation never predicted a rollover. (Tr. 234:18–235:20.) In fact, Schwall found that the simulation never predicts a rollover with a coefficient of friction of 0.57 or higher. (Tr. 235:17–20.) However, Seluga's proof also included a more complex equation, which, Schwall acknowledged, properly corrected the gravitational bias. (Tr. 252:5–21.) Schwall testified, though, that Seluga did not use the correct numbers in the complex equation and, thus, his result of 0.54 to 0.58 is flawed. (Tr. 258:1–9 ("There are then these follow-up equations that used the correct equation but based on what I tried to figure out last night of the numbers, he didn't correctly account for that, the two slopes we're talking about in putting those numbers into the correct equation. So he has both the wrong equation in one location and then the right equation with the wrong numbers in another location.").) Although Schwall's criticism appears credible, the Court cannot conclusively find based on the evidence before it that Seluga erred in correcting the gravitational bias. In any event, this dispute is not dispositive because, as discussed in more detail below, even if the path by the maintenance shed had a coefficient of friction in the range of 0.54 to 0.58, the maintenance shed is not a reliable proxy for the actual slope.

coefficient of friction values between 0.69 and 0.73. (Tr. 96:15–22.) Seluga then performed the drag sled test on the actual slope, and found the coefficient of friction to be between 0.83 and 0.90. (Tr. 90:17–22.) Despite these various calculations, Seluga used 0.53 exclusively as the coefficient of friction in all of the simulations he ran in preparing his report. (Tr. 103:11–16.) Seluga testified at his deposition that he used 0.53 because he "wanted to see if this accident could happen a certain way and the lowest friction value that was measure[d] is the most likely to see if it could happen." (Deposition of Kristopher Seluga ("Seluga Dep.") 134:17–135:10.)

After collecting the relevant data, Seluga created a computer simulation in order to determine what conditions would "produce a significant yaw instability that would cause the car to rotate sideways." (Tr. 36:8–18.) Seluga used a software program called Matlab for his simulations. (Tr. 37:18–38:2.) Matlab is analogous to Microsoft Excel in that the user creates the formulas and equations, and the program merely solves the user-created model. (Tr. 41:5–18, 67:1–4.) Accordingly, Seluga wrote the computer code for the model, including the relevant algorithms and formulas. (Tr. 39:5–9.) Seluga conceded at the *Daubert* hearing that it was not the general practice of accident reconstructionists to write their own code. (Tr. 38:22–39:2.) Seluga testified, however, that he used algorithms and formulas in writing the code for the simulation that he had previously used in his published, peer-reviewed articles. (Tr. 37:16–20.) However, the formulas and equations had generally only been used in the context of automobiles and large vehicles. (Tr. 41:14–42:5, 45:18–23.) The underlying computer code, i.e. Seluga's simulation model, has not ever been used or validated by anyone outside of Seluga's company. (Tr. 68:17–69:2.) The model is a proprietary model and is not commercially available. (Tr. 67:16–20.)

Seluga used a tire model for his simulation that had previously been used for automobiles. (Tr. 38:15–18.) Seluga testified that the particular tire model is not important in this action. (Tr. 47:15–22.) In contrast, Schwall claims that the tire model "is probably the most important part because all forces on a vehicle are coming through the tires." (Tr. 211:17–20.) Although Seluga maintains that the laws of physics apply identically to automobiles and golf cars, he had to change at least one of the equations — the yaw moment of inertia[8] — used in his model, after he discovered the correction factor used in the equation is significantly different for golf cars than it is for automobiles. (Tr. 57:3–19, 117:2–24.)

Based on his simulations, Seluga concluded that, at a speed of 14 miles per hour and on a slope of less than 10 degrees, a golf car would "yaw significantly enough to produce a rollover if the friction of the tires on the road were in the vicinity of about 0.55."[9] (Tr. 50:4–10.) Seluga testified that yaw instability "was the best explanation for [Matthew's] accident." (Tr. 23:18–23.) Seluga determined that "[t]his instability does not require a major steering input by the driver other than the small steering angle require[d] to follow the gentle left curve of the path and results entirely from the inherent instability of a vehicle with skidding rear wheels and rolling front wheels." (Seluga Report 11.) Seluga further opined that the simulations "demonstrated that the yaw instability that caused the fishtail would have been avoided if the subject car had been equipped with either front only or 4-wheel brakes." *Id.* Seluga concluded that "[i]t may be stated to a reasonable degree of engineering certainty that the subject rollover accident was the result of providing a golf car equipped with brakes on the rear wheels only." *Id.* at 14. This

[8] According to Seluga, the yaw inertia is the resistance to rotational motion in the plane of the ground. (Tr. 116:15–20.)

[9] Although Seluga professed that this opinion applied to coefficients of friction in the vicinity of 0.55, Seluga did not conduct any simulations involving a coefficient of friction other than 0.53. (Tr. 103:11–16.)

conclusion was based on "multiple dynamic computer simulations," which Seluga conducted in order to evaluate the "yaw instability of the golf car." *Id.* at 11.

1. Reliability of Seluga's Simulation Model

Defendants concede that Seluga is qualified but argue that his simulation model is not reliable. (Def. Mem. 5–18.) As an initial matter, Plaintiffs contend that Seluga's simulation model does not involve a "novel scientific procedure" and, therefore, "*Daubert* should be generally inapplicable, or applied in the context of common sense and logic." (Pl. Opp'n 23.) As the Supreme Court held in *Kumho Tire*, "*Daubert's* general holding — setting forth the trial judge's general 'gatekeeping' obligation — applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." 526 U.S. at 141 (quoting Fed. R. Evid. 702). As a result, courts have repeatedly applied *Daubert* in determining whether a specific accident reconstruction software program is sufficiently reliable to meet the requirements of Rule 702. *See, e.g.*, *Royal & Sun Alliance Ins. PLC v. UPS Supply Chain Solutions, Inc.*, No. 09 Civ. 5935, 2011 WL 3874878, at *8–9 (S.D.N.Y. Aug. 31, 2011) (conducting an analysis regarding whether the expert's methodology to reconstruct the accident in question met Rule 702's reliability requirements); *Moon v. United States*, No. 08 Civ. 1990, 2011 WL 181741, at *5 (S.D.N.Y. Jan. 13, 2011) ("As have other courts, I find that the use of PC–Crash to analyze the crash is a reliable methodology." (collecting cases)); *Turner v. Liberty Mut. Fire Ins. Co.*, No. 07 Civ. 163, 2007 WL 2713062, at *3–4 (N.D. Ohio Sept. 14, 2007) (finding the computer simulation program validated where it was subject to peer review and publication, has known error rates and is generally accepted by the relevant scientific community). Accordingly, the Court must determine whether Seluga's simulation model is reliable. Plaintiffs bear the burden of proving by a preponderance of the evidence that Seluga's

simulation model meets the requirements of Rule 702. *Williams*, 506 F.3d at 160. In determining whether a computer simulation is reliable, the court may consider whether the program has been or can be tested, has been subjected to peer review and publication, has a known or potential rate of error and has gained general acceptance in the relevant scientific community. *Id.* (citing *Daubert*, 509 U.S. at 593–94).

a. Validation

Defendants do not dispute that Matlab is an acceptable computer program to use in creating a simulation. (Def. Mem. 8–9; Tr. 243:12–20.) However, Matlab, unlike other generally accepted computer software programs, allows the user to create the underlying mathematical model. (Tr. 41:14–18, 67:1–4; Declaration of David Osterman ("Osterman Decl.") Ex. G ("Schwall Aff.") 6.) As a result, Seluga's simulation model must be validated. (Schwall Report 12 ("Only when the underlying physical model has been properly validated and the inputs to the model are accurate will the resulting output of the model be reliable.").) Plaintiffs contend that Seluga's simulation model is reliable because (1) the model uses accepted models and laws of physics and, therefore, need not be validated; (2) the model was properly validated using test data; and (3) the model was validated through real-world testing conducted by Defendants' experts.[10] (Pl. Opp'n 25–26; Oral Arg. Tr.[11] 42:9–44:16.)

[10] Plaintiffs also cite to a recent decision from the Western District of Pennsylvania where Seluga survived a *Daubert* motion, *Lynn ex rel. Lynn v. Yamaha Golf-Car Co.*, No. 10 Civ. 1059, 2012 WL 3544774 (W.D. Pa. Aug. 16, 2012), as evidence that his opinion should be admissible in this action. *Lynn*, 2012 WL 3544774, at *4–6. Seluga's qualifications are not at issue in the instant motion. Defendants challenge the simulation model that he created in Matlab in order to form his opinions. Seluga testified at the *Daubert* hearing in this action, that he used Matlab in performing his simulations in *Lynn*, (Tr. 7:8–14); however, the challenge to his testimony in *Lynn* focused on his use of two biomechanical simulation programs — Articulated Total Body and the Generator of Body Data — that had been previously validated by the scientific community and found reliable by the courts. *Lynn ex rel. Lynn*, 2012 WL 3544774, at *4. In

Plaintiffs maintain that "[w]here a simulation utilizes a well-understood and accepted model and laws of physics, and the utilized techniques, models and equations have previously been validated for vehicle simulations, no further validation is necessary for the results to be considered reliable." (Pl. Opp'n 25.) Plaintiffs contend, therefore, that Seluga did not need to perform any tests to validate his simulation. *Id.* at 25–26. "Engineering testimony rests upon scientific foundations, the reliability of which will be at issue in some cases." *Kumho Tire*, 526 U.S. at 150. A district court must determine whether a methodology, even one based on established scientific foundations, is reliable for the factual issues raised in a particular case. *See Dreyer v. Ryder Auto. Carrier Group, Inc.*, 367 F. Supp. 2d 413, 434 (W.D.N.Y. 2005) ("The reliability of the expert's methodology in reaching his conclusions must . . . be evaluated against the specific facts at issue, not generalized theories." (citing *Kumho*, 526 U.S. at 154)).

As Schwall testified at the *Daubert* hearing, the first step in creating a model is to determine the purpose for which the model is being created:

> First, in creating a model, what is important is to understand what the purpose of the model will be. And the reason for that is that nature is very complex. In order to create a model, we have to make simplifications. So if we're creating a vehicle model, we need to know what it will be used for. If it's used for determining how vehicles behave in a crash, then we are going to be interested in modeling the crush structure of the vehicle whereas if we're creating a model for vehicle dynamics and handling, we are interested in things such as the tire and suspension but not interested in how it behaves in a crash. So in order to make the simplifications, we need to know how the model will be used and that is the first step.

(Tr. 210:20–211:8.) In other words, simplifications that are permissible to recreate a collision may not be appropriate to recreate a non-impact rollover. *See Kumho Tire*, 256 U.S. at 154

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fact, the defendants in *Lynn* conceded the inherent reliability of those computer programs. *Id.* *Lynn* has no bearing on the instant action.

[11] "Oral Arg. Tr." refers to the transcript from the February 28, 2013 oral argument.

(noting that "the reasonableness *in general*" of using a specific methodology does not mean that using that methodology is reasonable "to draw a conclusion *regarding the particular matter to which the expert testimony was directly relevant*" (emphasis in original)). "[V]alidation is the process of making sure that despite the simplifications that have been made, the model still accurately predicts the way the object [the expert is] trying to simulate behaves." (Tr. 212:5–8.) Even a generally accepted computer simulation program, like PC-Crash, which is "based on the laws of physics and accepted principles of accident reconstruction," *Moon*, 2011 WL 181741, at *5 (collecting cases), is not a reliable methodology in all factual circumstances, *see, e.g.*, *Fairley v. Clarke*, No. 02 Civ. 2219, 2004 WL 877102, at *5–6 (E.D. La. Apr. 22, 2004) (holding that PC-Crash, as well as another computer simulation program, was "not the product of reliable principles and methods with regard to the underride accident in question, and the Court is not convinced that the witness has applied the principles and methods reliably to the facts of the case"); *State v. Sipin*, 123 P.3d 862, 869 (Wash. App. 2005) (finding that PC-Crash is not a reliable methodology for simulating multi-impact accidents). Without validation, the Court cannot determine whether Seluga's simulation model, reliably simulates an accident involving a vehicle rollover.

Seluga's reliance on equations created and verified for automobiles, as opposed to golf cars, further demonstrates the necessity of validation. Seluga claims that the laws of physics are the same for golf cars and automobiles. (Tr. 13:23–14:1.) However, Seluga concedes that at least one of the automobile-based assumptions used in the original model, the yaw moment of inertia, had to be modified after he learned that a portion of the calculation was different for golf cars. (Tr. 116:21–117:19.) Seluga testified that yaw inertia is a law of physics — "just like force is equal to mass times acceleration, the torque applied to an object is equal to its inertia in

the rotational axis times its angular acceleration."[12] (Tr. 116:21–117:1.) As with the majority of Seluga's model, he used an equation to calculate the yaw moment of inertia based on automobiles. (Tr. 117:2–10.) The equation involved a correction factor, which Seluga later learned is significantly lower for golf cars than for automobiles. (Tr. 117:5–19.) The original yaw moment of inertia that Seluga used was 0.95, but after he made the correction it was only 0.60. (Tr. 117:20–24.) Seluga testified that this adjustment was significant. (Tr. 117:17–19.) Although this portion of the model was presumably corrected, the Court cannot know whether the remaining automobile-based equations are, in fact, reliable when used in the context of a golf car rollover simulation. Accordingly, the Court finds that Plaintiffs' claim that Seluga's simulation model does not need to be validated because it relies on the laws of physics is without merit.

Next, Plaintiffs claim that Seluga adequately validated his model with test data that he received from a manufacturer. (Pl. Opp'n 25–26; Pl. 56.1 Reply ¶ 198.) Seluga no longer has the data in his possession, (Tr. 76:21–23), and does not recall who provided him with the data, (Tr. 76:24–77:1.) Seluga does not know if the data involved gas or electric golf cars, and he does not know who performed the tests reflected in the data. (Tr. 77:18–25.) The data is confidential and has never been published. (Tr. 77:6–9.) Seluga does not know the coefficient of friction of the test surfaces used in collecting the data. (Tr.77:2–5.) Seluga does not believe that the data involved vehicles being driven on a hill while braking and steering simultaneously, or simultaneous hard braking and steering on any surface. (Tr. 78:17–23.) Plaintiffs essentially ask the Court to accept Seluga at his word, without any tangible evidence, that this confidential

[12] Later, Seluga attempted to backpedal and stated that the actual moment of inertia is an input applying one of the laws of physics. (Tr. 118:20–119:5.)

data from an unknown source sufficiently validates Seluga's simulation model. The Court would not be performing its gatekeeping function, if it merely accepted, without any proof, a party's contention that its expert's opinion is reliable.

Even putting aside the various unknowns related to the confidential data, the data could not validate Seluga's simulation model because, according to Seluga's testimony, it does not involve conditions that are either similar to or encompass the conditions being simulated for this litigation. Seluga testified that this data does not involve combined braking and steering maneuvers on any surface, let alone a sloped surface. (Tr. 78:17–23.) Schwall contends that Seluga "would not have been able to sufficiently validate his model for the purposes for which he used it in this case," (Schwall Report 13), without test data that, at a minimum, involved "some combined braking-steering maneuvers," (Tr. 215:17–21). Similarly, Seluga conceded that he did not know the coefficient of friction involved in the test data that he used to validate his simulation. (Tr.79:8–11.) The actual dynamics of a tire are different depending on the surface and involve different mechanisms of friction, and, therefore, the model must be validated with an analogous coefficient of friction. (Tr. 217:6–218:1.) In the instant action, where the central issue is the yaw instability of the golf car, and the determinative factor is the coefficient of friction, the use of confidential data that does not involve similar circumstances does not render the simulation reliable.

Finally, Plaintiffs argue that the real-world testing conducted by Defendants' experts validates Seluga's simulation model. Schwall and David Bizzak, another expert for Defendants, conducted real-world testing, using the same inputs in Seluga's simulation, in order to determine whether the real-world results were consistent with the simulation. (Schwall Aff. 8.) The only input that was different was the coefficient of friction, which was only different because Schwall

and Bizzak performed the tests on the actual slope where the accident occurred, and the slope, as discussed in more detail below, has a significantly higher coefficient of friction than the value used in Seluga's simulations. Schwall found that Seluga's simulation model "produce[d] dramatically different results than the vehicle's actual behavior." *Id.* During Schwall's testing, the vehicle was directionally stable and quickly came to a stop on the path with minimal change in the heading angle. *Id.* In contrast, the simulations, using the recorded inputs, "predicted significant vehicle rotations before coming to a stop, often fully or partially off the path." *Id.* Plaintiffs contend that this testing validates Seluga's model because, after Defendants performed this testing, Seluga ran his simulation using a coefficient of friction similar to the coefficient of friction that existed on the day Defendants performed their tests and Seluga's simulation produced results similar to the real-world testing. (Oral Arg. Tr. 43:2–8.) When Defendants' experts conducted their tests, "the friction . . . was on the order of 0.82." (Tr. 61:6–13.) Seluga ran his simulation, assuming a coefficient of friction of 0.80 or higher, and "the result was that there was very little yaw and in fact it matched very well with their tests." (Tr. 61:9–13.) As a result, Plaintiffs claim that Defendants' experts' tests validate Seluga's simulation.[13]

Putting aside the issue of whether Seluga's artificially low coefficient of friction is, in and of itself, fatal to the admissibility of his simulation, the Court finds that the real-world testing

[13] Plaintiffs do not ever acknowledge that the difference in the coefficient of friction is because Defendants' experts conducted the tests on the *actual slope* where the accident occurred and not on a sandy portion of the path by the maintenance shed. Plaintiffs are essentially arguing that because the actual slope where the accident occurred has a significantly higher coefficient of friction than the coefficient of friction used in Seluga's simulations, the real-world testing does not discredit Seluga's simulation model but rather shows that it is valid. Even accepting Plaintiffs' flawed premise, the Court finds that the real-world testing supports the exclusion of the simulation model because Seluga's use of a coefficient of friction, which is dramatically different from the value at the actual slope and results in the opposite outcome, is not merely irrelevant, but is also misleading and offers no support for his opinion. Selgua's simulation model never predicts a rollover when using input values that correspond to the actual scene of this accident. (Tr. 61:9–13.)

of Defendants' experts does not validate Seluga's simulation model for the purposes of this case. As Schwall explained at the *Daubert* hearing, in order to validate a simulation through real-world testing, an individual must put certain inputs into both the simulation and the real-world system and compare the results to see if "they are similar enough within some desired degree of accuracy." (Tr. 212:5–16.) However, "one needs to use inputs that are representative of the inputs that one would be using when they use the simulation." (Tr. 212:18–19.) For example, if someone were to create a model for the purpose of calculating how long it takes an object to fall from a specified height, he or she would create the model based on the relevant laws of physics and then attempt to validate it. (Tr. 212:21–24.) If the individual ran tests, dropping a pen from heights up to ten feet and the results were consistent with the simulation, the simulation would be validated for heights up to ten feet. (Tr. 212:25–213:8.) The simulation would not be validated for all heights. As Schwall explained, if he dropped a pen from a height of several stories, the results would not necessarily be consistent with a simulation that was only validated for heights up to ten feet because there are additional factors that must be accounted for when an object falls from a greater height. (Tr. 213:9–13.) For instance, if the model failed to take into account air resistance, that omission would not have a significant effect on the drop time of a pen from heights up to ten feet but would have a significant effect on the drop time of a pen from several stories. (Tr. 213:9–16.)

Accordingly, a simulation must be "evaluated against the specific facts at issue" in order to ensure that the model can reliably recreate the relevant accident at issue. *Dreyer*, 367 F. Supp. 2d at 434; *see also Jarvis v. Ford Motor Co.*, No. 92 Civ. 2900, 1999 WL 461813, at *4–5 (S.D.N.Y. July 6, 1999) (finding that the expert's methodology was reliable with respect to two of his opinions regarding the causes of sudden acceleration in a car but not the third because only

the first two conditions had been "verified through repeated tests on a model that accurately reflects the *relevant* electrical components" (emphasis added)). Seluga utilized the computer simulations in order to determine the "yaw instability of the golf car." (Seluga Report 11.) The real-world testing conducted by Defendants' experts does not address nor validate the yaw instability portion of Seluga's simulation model, and Seluga concedes that he did not conduct any real-world testing to validate the yaw instability portion of his model. (Tr. 69:21–70:2.) As Schwall explained at the *Daubert* hearing:

> [W]hat Mr. Seluga described yesterday was that he took the data that I had taken, used a high coefficient of friction such as the one that I measured and then received similar results in that the car rapidly came to a stop. What that does is that validates that the model can show a vehicle rapidly coming to a stop. Again, as we discussed the type of inputs used for validation, it certainly doesn't validate that on a low coefficient of friction, the vehicle has yaw instability. *It's much easier to model a vehicle rapidly coming to a stop than it is to model the complex dynamics of yaw instability.*

(Tr. 253:22–254:9 (emphasis added).) Simply because the simulation can reliably predict *a* real world event does not prove that the simulation can reliably predict *any* real world event. Defendants argue that Seluga's simulation model made the following simplifications, which affect its ability to reliably predict yaw instability: (1) use of an overly simplified tire model; (2) failure to include any simulation of the vehicle roll angle, vehicle suspension or tire deflection, or any difference between the path and the grass; and (3) failure to take into account the golf car suspension system. (Schwall Report 12–13; Schwall Aff. 7; Tr. 122:8–18, 211:17–24.) Seluga maintains that neither the specific tire model nor the golf car's suspension system affect the reliability of the model. (Tr. 47:15–22, 122:8–18.) However, the Court cannot determine whether or not these simplifications affected the reliability of the model because Plaintiffs have not provided any evidence that the model has been validated. The Court finds that Plaintiffs

have failed to demonstrate that Seluga's simulation model has been validated or tested in any meaningful way.

b. Peer Review and Acceptance in the Scientific Community

Seluga concedes that his simulation model has never been subjected to peer review. (Tr. 68:23–69:2.) In fact, other than in litigation, no one outside of Seluga's company has used or evaluated his simulation model. (Tr. 68:23–69:2, 238:6–12.) His model is not available to the public and, thus, does not have general acceptance in the scientific community. (Tr. 67:16–20.) Moreover, Plaintiffs have not provided the Court with any peer-reviewed literature supporting Seluga's opinion that when a golf car is driven on a slope of less than ten degrees, at a speed of less than fifteen miles per hour with minimal steer input, a rear-wheel braking system will cause significant yaw instability. To the contrary, in Seluga's 2006 article, "Braking Hazards of Golf Cars and Low Speed Vehicles," Seluga states:

> The simulation results consistently demonstrate that for speeds at or below the maximum flat ground speed of 24 km/h (15mph), and downhill slopes as high as 10°, the rear brakes configuration is not likely to cause significant yaw displacements before the vehicle comes to a stop. *Therefore, for these conditions (i.e. no large steering inputs), the rear wheel only braking configuration does not lead to large yaw instabilities*.

(Pl. Ex. N at 63 (emphasis added).) Plaintiffs argue that this article does not contradict his current opinion because "the presumed coefficient of friction in Seluga's article . . . is much higher than the coefficient of friction measured on areas [sic] cart path surfaces at La Tourette Golf Course." (Pl. Opp'n 43.) Seluga's article assumes a coefficient of friction of 0.75, which is significantly higher than the coefficient of friction used in Seluga's simulations but consistent with the coefficient of friction measured on the actual slope where the accident occurred. (Tr. 75:8–12.) In any event, even if the Court was persuaded by Plaintiffs' attempts to distinguish

Seluga's 2006 article, Plaintiffs have only established that his opinion is not contradicted by peer-reviewed literature. Plaintiffs still have not provided any peer-reviewed literature supporting his model or his opinion or any other evidence that either his model or his opinion is generally accepted in the scientific community.

c. Error Rate

The Court also finds that Seluga's simulation model is not reliable because its error rate is unknown and cannot be determined. Seluga testified that he ran the simulation, which forms the basis of his opinion, dozens of times. (Tr. 129:20–24.) Each time he ran it, he added a random noise component. (Tr. 59:17–60:3, 127:5–17.) Noise, according to Seluga, introduces random variations to the underlying inputs to "represent the actual . . . randomness that occurs in the real world." (Tr. 59:23–60:3.) The model automatically changes the steering input and coefficient of friction each time that it is run because of the random noise component. (Tr. 127:9–17.) Random noise is not a part of other, existing accident reconstruction models. (Tr. 128:24–129:1.) Seluga testified at his deposition that he determined the effect of the noise component on the steering input and coefficient of friction based on "[his] understanding of [how] the car actually works." (Seluga Dep. 185:9–11.) Seluga does not offer any data to support this determination. (Seluga Dep. 185:17–186:5.)

As a result of random noise, a different expert cannot verify Seluga's results. (Tr. 129:2–14, 237:21–22.) As Schwall testified, he cannot "quantify the error" because the input values change each time he runs the simulation. (Tr. 238:4–5.) Moreover, Seluga did not keep a record of the input values used in his simulations after the random noise adjustment; in fact, Seluga did not even keep a record of the number of times that his simulation actually predicted a rollover:

> DEFENSE COUNSEL: Did you produce the data from the dozens of runs or did you only produce it from one run?

SELUGA:	Only from one because it doesn't get saved anywhere unless you actively save it.
DEFENSE COUNSEL:	Did you write down in your notes anywhere how many times out of a hundred [the simulation] predicted a rollover?
SELUGA:	No. I know it was definitely not all of the time. It was not a one in a hundred chance but it was something I think around half the time, maybe a quarter of the time.
DEFENSE COUNSEL:	So the simulation that you say best represents the accident scenario in this case, the simulation upon which the animation is based is a simulation that predicted a rollover approximately 25 percent of the time?
SELUGA:	Like I said, it might have been up to 50 percent. I don't know. It was something like that.

(Tr. 130:4–14.) Schwall ran Seluga's simulation with a 0.53 coefficient of friction and found that it predicts a rollover 25 percent of the time. (Tr. 235:17–20.) Seluga's use of random noise and his failure to keep track of the simulation results undermine the reliability of both his model and his opinion.

2. Coefficient of Friction

The reliability of Seluga's simulation model is further compromised by the unreasonably low coefficient of friction used in his simulations. Although challenges to an expert's assumptions generally go to the weight, not the admissibility, of the testimony, "a trial judge should exclude expert testimony if it is speculative or conjectural or based on assumptions that are 'so unrealistic and contradictory as to suggest bad faith' or to be in essence 'an apples and oranges comparison.'" *Zerega Ave. Realty Corp. v. Hornbeck Offshore Transp., LLC*, 571 F.3d 206, 213–14 (2d Cir. 2009) (quoting *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir.

1996)); *see also Major League Baseball Prop.*, 542 F.3d at 311 ("An expert's opinions that are without factual basis and are based on speculation or conjecture are . . . inappropriate material for consideration on a motion for summary judgment.").

All parties agree that the coefficient of friction is "the determining factor" in the instant action. (Tr. 60:18–23, 79:12–19, 236:4–10.) Seluga concedes that in circumstances where the coefficient of friction is 0.80 or higher, there would be no significant yaw. (Tr. 61:9–13, 62:17–21.) Seluga's 2006 article states that there is no significant yaw, when the coefficient of friction is 0.75. (Tr. 75:8–12.) Seluga's simulation model does not ever predict a rollover when the coefficient of friction is 0.57 or higher. (Tr. 235:17–20.) Here, Seluga used a coefficient of friction of 0.53. (Tr. 103:11–16.) In light of the existing literature, and the tests conducted by Seluga and Defendants' experts, the Court finds that Seluga's use of a 0.53 coefficient of friction is so unrealistic and speculative that it renders his simulations unreliable.[14]

[14] Defendants also challenge the reliability of Seluga's simulation based on the values used for the golf car height, steering input and speed. (Def. Mem. 8–15.) With regard to the golf car height and the speed, these discrepancies do not rise to the level of assumptions so "unrealistic or contradictory" that they go to the reliability of, rather than the weight given to, Seluga's opinion. *Zerega Ave. Realty Corp. v. Hornbeck Offshore Transp., LLC*, 571 F.3d 206, 213–14 (2d Cir. 2009) (citation omitted). The steering assumptions that Seluga used are more problematic. Seluga's simulations assume a minimum 1 degree steering input, which is equivalent to an 18 degree turn on the steering wheel. (Tr. 239:1–13.) Seluga claims that this input is based on Matthew's statement that he followed the curve of the path. (Pl. 56.1 ¶¶ 214–15.) Seluga looked at aerial pictures of the path and determined the curvature of the path based on those pictures. (Tr. 58:10–15.) Seluga never took any measurements of the curvature at the actual path, nor did he test his steering assumptions on the actual path. However, Schwall tested this steering assumption on the actual path. Schwall drove down the path and halfway down he inputted a 20 degree left steer. (Tr. 240:11–14.) Schwall held the left steer and, as a result, the car departed from the path. (Tr. 240:12–14.) Schwall testified that "you can't apply a 1 degree steer and stay on the path much less is it required to have a 1 degree to stay on the path." (Tr. 240:16–18.) Although the steer input, without more, would not render the simulation inadmissible, the Court notes that the use of a 1 degree steer input appears to be unrealistic and is yet another reason why the simulation is not reliable for the purposes of the instant litigation.

First, the Court finds that Seluga's own testing methodology demonstrates that the 0.53 coefficient of friction is artificially low. Seluga conducted two types of friction tests — dynamic and static — in two different areas of the golf course. Seluga only conducted the dynamic test by the maintenance shed and found that the coefficient of friction was between 0.53 and 0.57. (Tr. 102:25–103:9.) He conducted the static tests in both locations and found the coefficient of friction on the path by the maintenance shed was between 0.69 and 0.73, (Tr. 96:15–22), and the coefficient of friction on the actual slope was between 0.83 and 0.90, (Tr. 90:17–22). After conducting these tests, Seluga knew that the "slope at the accident scene" had a higher coefficient of friction than the path by the maintenance shed. (Tr. 104:22–105:4.) Despite knowing this, Seluga used a 0.53 coefficient of friction, which is the lowest value that he received when conducting his tests *by the maintenance shed*.[15] (Tr. 102:25–103:9.) Further undermining the reliability of Seluga's coefficient of friction value are the corrections he made to adjust for the gravitational bias. (Tr. 102:18–24.) After Seluga's calculations, he determined that for the dynamic test by the maintenance shed, his results were actually between 0.54 and 0.58. (Tr. 102:18–24.) Thus, Seluga's own tests did not ever produce a coefficient of friction value as low as 0.53.

Plaintiffs contend that the coefficient of friction value that Seluga used is consistent with peer-reviewed literature. At the *Daubert* hearing, Plaintiffs presented a table, which appears to be excerpted from either a peer-reviewed paper or textbook entitled "Skidmarks Analysis," listing the coefficient of friction values for an automobile tire on various surfaces. (Pl. Ex. 6.)

[15] Seluga also knew that "different surfaces hav[e] different coefficients of friction," and "the condition of the surface . . . has a big effect." (Tr. 31:1–5.) Yet, he chose to conduct his test in an area where the path had a significant amount of sand on it and was exposed to other various contaminants, including, but not limited to, gas, cleaning fluids and oil, (Tr. 236:20–237:1), and only used the coefficient of friction from this contaminated area in his simulations, (Tr. 103:11–16).

The table indicates that the coefficient of friction on sand is 0.55 and on dry asphalt is 0.80. *Id.* This article does not validate but rather further refutes Seluga's use of 0.53. Plaintiffs have not presented any evidence that the path where the accident occurred was covered in sand, such that the coefficient of friction for sand would be a relevant number. Moreover, Seluga's 0.53 coefficient of friction value is not only contradicted by peer-reviewed literature — both the "Skidmarks Analysis" table and Seluga's 2006 article, which assumed a coefficient of friction of 0.75 — but also the tests conducted by Defendants' experts.

Defendants' experts performed dynamic tests on the actual slope in July of 2009 and October of 2011. (Tr. 219:20–220:6.) In July of 2009, Schwall measured the coefficient of friction on the slope where the accident occurred using the actual golf car and an exemplar golf car, and he determined that the coefficient of friction was between 0.85 and 1.0. (Tr. 221:21–222:8; Schwall Report 9.) In performing the tests, Schwall used both a GPS and an accelerometer to verify the accuracy of his results. (Tr. 222:1–8; Schwall Report 9.) In October of 2011, after the path had been repaved, Schwall conducted additional tests with the actual golf car on the actual path. (Tr. 222:20–223:2.) Schwall found the coefficient of friction to be in the range of 0.85 to 0.95. (Tr. 223:6–7; Schwall Report 9.) Schwall's values were "consistent with published results for tires on dry asphalt." (Schwall Report 10.) As the below chart emphasizes, Seluga's use of a 0.53 coefficient of friction is completely unrealistic given the coefficient of friction values obtained by all of the experts:

	Maintenance Shed	Actual Slope
Static	**0.69 – 0.73**	**0.83 – 0.90**
Dynamic	**0.53 – 0.57** (without bias correction) **0.54 – 0.58** (Seluga's bias correction) **0.61** (Schwall's bias correction)	**0.85 – 1.0** (old pavement) **0.86 – 0.95** (new pavement)

(Def. Ex. G.)[16] Seluga concedes that he used 0.53 in order to get the desired result, a rollover, (Seluga Dep. 134:17–135:10), and that his opinion is dependent on an equal amount of sand having been present on the slope where the accident occurred on the day of the incident, (Tr. 108:17–109:1).

There is no evidence in the record to suggest that on the day of the accident the path that Matthew was driving on was covered in sand and, thus, no basis for this assumption. *See Russo v. Keough's Turn of the River Hardware, LLC*, No. 11 Civ. 994, 2012 WL 4466626, at *3–4 (S.D.N.Y. Sept. 25, 2012) (finding no basis for the expert's assumption that a lack of complete uniformity in the ladder's thickness caused the accident in question, particularly where the expert never measured the thickness of the ladder in the actual area where it folded). Accordingly, the Court finds that Seluga's use of an unrealistically low coefficient of friction value is further evidence that his simulations are not admissible under Rule 702. *See id.* at *4 ("There is simply

[16] This chart is based on Defendants' Exhibit G from the *Daubert* hearing, summarizing the experts' findings, with the addition of Schwall's gravitational bias calculation for the dynamic test by the maintenance shed and explanatory parentheticals for the other values for the dynamic test by the shed.

too great an analytical gap between the data measured by Dr. Marletta and the assumption that the ladder was defectively manufactured."); *Baker v. Urban Outfitters, Inc.*, 254 F. Supp. 2d 346, 354 (S.D.N.Y. 2003) (excluding the expert's testimony where she was "engaging in the sort of 'apples and oranges' comparison that has been rejected in the past as irrelevant"); *see also Lynn ex rel. Lynn v. Yamaha Golf-Car Co.*, No. 10 Civ. 1059, 2012 WL 3544774, at *5 (W.D. Pa. Aug. 16, 2012) ("[C]ourts . . . have held that preclusion of an expert's testimony is proper when necessary to screen inaccurate data used in computer modeling.").

In conclusion, the Court finds that Seluga's simulation model does not meet the reliability requirements of Rule 702. The underlying model has not been validated, does not have a known error rate, has not been subjected to peer review and does not have general acceptance in the scientific community. The input value for the coefficient of friction is so contradictory to the facts of this case that it renders the simulation model inadmissible. Moreover, the ultimate opinion reached by Seluga is contradicted by his own 2006 peer-reviewed article and by his own simulation, which only gets the desired outcome 25 percent of the time even after he assumes that a significant amount of sand was on the path the day of the accident. Simply put, Plaintiffs have not presented any evidence from which the Court could find that Seluga's simulation model is reliable for the purposes of this litigation. Having found the simulations inadmissible, the Court concludes that Seluga does not have a proper basis for his opinion, and his testimony must be excluded.[17] *See Ruggiero v. Warner-Lambert Co.*, 424 F.3d 249, 253 (2d Cir. 2005)

[17] Plaintiffs argue that, even without the simulations, Seluga can offer expert testimony. (Pl. Opp'n 46.) Plaintiffs have failed to explain what Seluga could testify to without his simulations. Seluga clearly stated both in his expert report and at the *Daubert* hearing that he conducted the computer simulations in order to evaluate the yaw instability of the golf car given the facts in this case. (Tr. 36:8–18, 50:4–10; Seluga Report 11.) Without the simulations, Seluga has no basis to testify that the rear-wheel braking system caused significant yaw instability resulting in the rollover.

("[W]hen an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the exclusion of that unreliable opinion testimony." (citation omitted)). The Court grants Defendants' motion to exclude the testimony of Seluga.[18]

ii. Bruce Gorsak

Bruce Gorsak, Plaintiffs' second expert, contends that the golf car was defective because it lacked seatbelt restraints, four-wheel brakes and an adequate warning. Defendants argue that Gorsak is unqualified and that his opinions are unreliable. (Def. Mem. 19.) Gorsak received a bachelor's degree in mechanical engineering technology from the Milwaukee School of Engineering. (Tr. 137:11–13.) Whereas mechanical engineering involves the actual design of the mechanical aspects of a product, mechanical engineering technology involves the techniques and systems used for manufacturing a product in accordance with the mechanical engineer's design. (Tr. 171:8–19.) Gorsak is not a licensed mechanical engineer and, therefore, by law is not permitted to design products or otherwise offer himself out as a mechanical engineer. (Tr. 171:18–172:24.) Gorsak previously worked at E-Z Go, but he worked in the maintenance department and was responsible for supervising the plant. (Tr. 139:17–19.) Gorsak was not involved with the manufacturing of E-Z Go's golf cars. (Tr. 139:17–18.)

In preparing his report, Gorsak did not go to La Tourette, inspect the subject golf cart or conduct any independent testing. (Tr. 179:6–17.) At the time he prepared his report, Gorsak was not aware of the relevant American National Standards Institute ("ANSI") standards or of any standards governing the golf car at issue. (Tr. 180:9–19.) Gorsak conceded at the *Daubert*

[18] Having excluded Seluga's testimony, the computer animation, which is based on Seluga's simulations, is also excluded.

hearing that he did not rely on or consider the ANSI standards specific to golf cars in forming his opinions. (Tr. 182:16–19.) Instead, Gorsak's opinions were based on the federal standards for automobiles. (Tr. 185:17–20.) With respect to the rear-wheel brakes, Gorsak states that "[t]he 2-wheel brake application of the E-Z-GO TXT golf car does not allow for any form of failure, it is not fail-safe, is defective from the design standpoint, and is a use [sic] of Valente's injuries." (Gorsak Report 7.) In his report, Gorsak does not provide any underlying analysis or reasoning for this conclusion. At the *Daubert* hearing, Gorsak explained that he relied on his familiarity with the brake systems that are used in golf cars in forming his opinion. (Tr. 150:4–6.) When asked the basis of this familiarity, Gorsak responded: "We fixed them. I didn't fix them. I had guys that would do that in my department if there were problems." (Tr. 150:9–10.) Gorsak testified that he could not say to a reasonable degree of engineering certainty that Matthew's accident could have been prevented by four-wheel brakes without conducting testing. (Tr. 194:9–195:10.)

Similarly, when Gorsak testified regarding the need for a restraint system in the subject golf car, he stated that his opinion was based on his "use of the golf car every day for several years, [and] that you can feel the propensity to go out of it, especially if you are in a hurry." (Tr. 158:7–9.) Gorsak opined that the lack of a restraint system was one of the reasons that Matthew had his accident. (Tr. 160:18–22.) However, Gorsak did not know whether the G forces involved in Matthew's accident would have been sufficient to trigger the lock-up function of a retractable seatbelt, even if the golf car had been equipped with such a belt. (Tr. 198:16–22.) When asked whether he would suggest a three, five or six point harness system, Gorsak responded that he would have to conduct some testing or research in order to determine the best harness system. (Tr. 197:5–198:5.) Gorsak was not aware of any peer-reviewed publication that

recommended a retractable seatbelt or a fixed-lap belt for golf cars intended for use under 15 miles per hour. (Tr. 199:20–23.)

Finally, Gorsak testified that the warnings on the E-Z Go golf car do not sufficiently advise the user of potential hazards and what the user must do in order to avoid those hazards. (Tr. 162:1–5.) At the *Daubert* hearing, Gorsak admitted that he did not "specifically state what the warning is" in his report. (Tr. 163:7–164:2.) Gorsak could not recall the specific language of the warning, but he testified that it "brings up [that] you could be seriously hurt but then it downsizes it, if you will to use a common term, to just drive safely." (Tr. 164:5–8.) Gorsak stated that his opinion that the warning was insufficient was based on "the Peters book," which says that a warning that "calls for safe use, avoidance of use and abuse, and to be careful" is not sufficient. (Tr. 164:9–14.) Gorsak could not offer an opinion to a reasonable degree of engineering certainty that a different warning would have prevented the accident. (Tr. 196:20–25.) Gorsak did not draft an alternative warning. (Tr. 195:20–23.)

1. Qualifications

Gorsak does not have the requisite "knowledge, skill, experience, training or education" in the area in which his testimony is offered. Fed. R. Evid. 702. Although Gorsak need not have an engineering license in order to testify regarding design defects, he must be "educated and experienced enough to make himself an expert regarding the [product] in question." *Russo v. Keough's Turn of the River Hardware, LLC*, No. 11 Civ. 994, 2012 WL 4466626, at *3 (S.D.N.Y. Sept. 25, 2012); *see also Dreyer*, 367 F. Supp. 2d at 430 ("[W]hile experience can provide the basis to qualify a witness as an expert, the experience must be demonstrated and have direct relevance to the issues in the case." (collecting cases)). Gorsak has a degree in mechanical engineering technology, but he does not have a degree in mechanical engineering

and is not a licensed engineer. (Tr. 137:11–13,171:18–22.) He does not have any special training or expertise related to golf cars, braking systems, restraint systems or warnings. He has never designed a braking system, restraint system or written a warning for a commercially-available product. (Tr. 142:15–19, 178:8–23.) Gorsak was previously employed by E-Z Go, but he was a maintenance supervisor, whose job required him to fix conveyor belts and did not have any involvement in the design process. (Tr. 139:17–19.) He was not involved with the manufacturing of E-Z Go's golf cars or any golf cars. (Tr. 139:17–18.) In fact, Gorsak has little experience with golf cars, claiming that he developed his expertise by driving a golf car "every day of the week for two and a half years." (Tr. 142:19–20.)

Accordingly, the Court finds that Gorsak does not have the knowledge or experience required in order to qualify him as an expert in this action.[19] *See Fernandez v. Cent. Mine Equip. Co.*, 670 F. Supp. 2d 178, 184 (E.D.N.Y. 2009) ("Although Anderson is a licensed mechanical engineer, his work experience contains little to no involvement in the drilling industry. Nothing in his resume or his deposition testimony permits this Court to conclude that Anderson has any relevant experience in the field of geotechnical or water well drilling or with a manually operated cathead, such as the one at issue in this litigation."); *Solorio v. Asplundh Tree Expert Co.*, No. 02 Civ. 8035, 2009 WL 755362, at *2 (S.D.N.Y. Mar. 23, 2009) (noting the expert's "general lack of qualifications," where the expert had "a degree in 'mechanical engineering *technology*' not 'mechanical engineering,'" was not a professional engineer and had not written any "peer-

[19] At the *Daubert* hearing, Gorsak, while acknowledging that he was not a human factors engineer, claimed that he was a human factors expert. (Tr. 169:8–12.) A human factors engineer attempts to determine the user's foreseeable actions that will affect the safety and design of the product. (Tr. 156:1–10.) Gorsak's only basis for putting himself forward as a human factors expert is that he has read literature written by actual human factors experts. (Tr. 156:11–23, 170:1–14.) Gorsak's knowledge and training is not in the field of human factors, nor does he have any other basis for claiming that he is qualified to testify as a human factors expert. (Tr. 169:21–170:14.)

reviewed articles, participated in the drafting of any standards or regulations, designed a product that went to market, or received any patents" (emphasis in original)); *Barban v. Rheem Textile Sys., Inc.*, No. 01 Civ. 8475, 2005 WL 387660, at *3–4 (E.D.N.Y. Feb. 11, 2005) (holding that the expert was not qualified to testify as an expert regarding the design of a laundry press machine because he "has never designed a machine of any kind, and has never worked with laundry machines in any capacity that bears on the conclusions he reaches in this case"), *aff'd*, 147 F. App'x 222 (2d Cir. 2005).

2. Reliability and Relevance

Even assuming *arguendo* that Gorsak is qualified to testify as an expert, his proposed testimony is neither relevant nor reliable. In forming his opinion, Gorsak did not conduct any independent testing. (Tr. 179:6–17.) He did not examine the golf car at issue or an exemplar golf car. (Tr. 179:6–17; Deposition of Bruce Gorsak ("Gorsak Dep.") 13:3–10.) Gorsak is not able to state with a reasonable degree of engineering certainty that either the absence of four-wheel brakes, seatbelts or an adequate warning caused Matthew's accident. (Tr. 194:9–19, 196:20–25; Gorsak Dep. 69:2–11.) Gorsak testified that he could not make that determination without conducting tests, and he did not conduct any tests. (Tr. 194:20–195:10.) Gorsak did not even consider the governing standards for golf cars in reaching his opinions. (Def. Mem. 20.)

Gorsak merely reiterates, without any basis, the conclusions that Plaintiffs seek to advance in this litigation, which is not proper expert testimony. *See Major League Baseball Prop.*, 542 F.3d at 311 ("An expert's conclusory opinions are . . . inappropriate."); *Lidle ex rel. Lidle v. Cirrus Design Corp.*, No. 08 Civ. 1253, 2010 WL 2674584, at *4 (S.D.N.Y. July 6, 2010) ("Expert testimony should not merely reiterate arguments based on inferences that can be drawn by laypersons; those can properly be advanced by the parties in their summations."

(citation omitted)). He has not offered any reliable basis for his opinions, nor any methodology, specialized training or knowledge, that would justify allowing his testimony as an expert.[20] *See Fernandez*, 670 F. Supp. 2d at 185–187 (finding that the expert's opinion was unreliable where the expert, among other things, did not inspect the subject drill, did not conduct any studies or analyses in developing his opinion and did not take any steps to verify his opinion); *Castaldi v. Land Rover N. Am., Inc.*, No. 06 Civ. 1008, 2007 WL 4165283, at *9 (E.D.N.Y. Nov. 21, 2007) ("The problem with Serdar testifying to this conclusion is that he did not use any expertise to reach it. Apart from his unreliable accident reconstruction, Serdar did not appear to use any testable methodology at all. He simply performed the function of a juror."); *Zaremba v. General Motors Corp.*, No. 98 Civ. 2505, 2003 WL 22331287, at *3 (E.D.N.Y. Apr. 25, 2003) (excluding the experts' testimony because they had not "produced scientifically sound, useful, empirical data to support their opinions"). Defendants' motion to exclude the testimony of Gorsak is granted.[21]

b. Plaintiffs' Motion to Preclude Defendants' Experts

Plaintiffs seek to exclude Defendants' experts, Matthew Schwall and David Bizzak. For the reasons set forth below, the Court finds that the testimony of Schwall and Bizzak meets the requirements of Rule 702, and Plaintiffs' motion to preclude their testimony is denied.

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[20] Plaintiffs concede that there is no scientific methodology or theory underlying Gorsak's opinions but argue that "[b]ased upon Mr. Gorsak's experience and education, in part, a process of elimination was utilized to rule out the cause of the plaintiff's accident. While it is not a scientific procedure or process, it is a theory of logic used to reach a conclusion, and in appropriate matters, such as the case at bar, it is the proper basis upon which an expert may draw and explain a conclusion." (Pl. Opp'n 48.) Gorsak does not describe using a process of elimination in order to reach his conclusions in his report or during his testimony at the *Daubert* hearing.

[21] Defendants do not challenge Gorsak's qualifications to discuss the costs of adding four-wheel braking systems or seatbelts to golf cars. The Court need not decide whether this testimony is admissible because it could not save Plaintiffs' claims.

i. Matthew Schwall's Opinion

Schwall inspected the subject golf car on July 22, 2009 and then performed a series of "instrumented driving tests" with the golf car on October 17, 2011. (Schwall Report 5.) When Schwall inspected the vehicle, he observed a "dent in the passenger side outside edge of the floor board," which is "consistent with impact from a narrow object." *Id.* Schwall also observed "[t]ufts of grass . . . trapped between the rim and tire of the right rear wheel." *Id.* Schwall noted that "green paint transfer is visible in front of the right wheel." *Id.* at 6. Schwall also inspected the portion of the path where the accident occurred and found that "the slope of the path ranges from approximately 6 to 10 degrees." *Id.* at 7–8. Schwall found that the path did not have any "significant turns from the tee area to the pavement transition." *Id.* at 8. Schwall states that "the path is almost perfectly straight for approximately 100 feet prior to the site of the accident." *Id.*

Schwall performed case-specific testing during both his 2009 and 2011 visits. *Id.* In 2009, he conducted tests both with the subject car and an exemplar car provided by La Tourette. *Id.* The cars were driven on a relatively flat area as well as the subject path. *Id.* at 7–8. During the 2011 tests, the golf car appeared not to have been driven for some time, so Schwall "cleaned the carburetor and air filter and replaced the fuel filter, spark plugs, battery, and fuel." *Id.* at 9. After the maintenance, the car performed similar to how it had performed in July of 2009. *Id.* The car reached a top speed of approximately 10 miles per hour on level ground and 13 to 14 miles per hour on the subject path "when loaded with a single operator of similar height and weight to Matthew Valente." *Id.* Schwall tested the car's steering response and found that it was "directionally stable during braking even in the most demanding tests performed — on the sloped path during locked wheel braking from top speed." *Id.* Schwall found that the car "consistently came to a stop within a few seconds of brake application with minimal sideslip or

change in heading angle." *Id.* As previously discussed, in testing, Schwall found that, in 2009, the coefficient of friction on the subject path was between 0.85 and 1.0, and, in 2011, the coefficient of friction was between 0.85 and 0.95. *Id.* When Schwall visited in 2011, he observed that a new layer of pavement had been put over the path but found that the "[m]easurements from both inspections reveal that this repaving did not significantly alter the curvature or slope of the path." *Id.* at 8.

Schwall concludes that the physical evidence "indicates that [the golf car] tipped over onto the passenger side." *Id.* at 10. Specifically, Schwall notes that "scratches on the passenger side that are embedded with dirt are likely from the subject incident, as distinguished from other light scratches likely from earlier incidental scrapes." *Id.* Schwall stated that the damage to the vehicle indicates that it did not roll beyond 90 degrees, and the "orientation of the scratches suggests that the vehicle had developed a significant sideslip angel at the time of tip over." *Id.* Schwall also found, based on the "location of grass pinched between the right rear tire and rim," that the tire was on the grass at the time the car flipped over. *Id.* The right rear tire would have been the last tire on the grass, since the car went off the left side of the path. *Id.* Schwall, therefore, "conclude[d] that the golf car was fully off the path as the vehicle tipped over." *Id.* Schwall stated that this conclusion was "further confirmed by the lack of abrasions of the type that would be expected had the car tipped over on asphalt." *Id.*

At the left side of the path, there was a row of ropes and posts. *Id.* Schwall concluded that the car must "have struck these prior to tipping over on the grass." *Id.* Schwall noted that the dent in the passenger side floorboard and the paint in front of the passenger side rear wheel suggests contact with the posts. *Id.* at 11. As a result of the impact with the posts and/or entanglement with the rope, the front of the car would have slowed down, "contributing to the

vehicle's counterclockwise rotation" and "consistent with the eyewitness testimony of Douglas Lopez when he stated that the vehicle struck something that caused it to rotate." *Id.* Schwall states that "[i]n order to tip over, the vehicle required both a tripping mechanism and sufficient lateral velocity to possess the kinetic energy required to roll over." *Id.* Accordingly, Schwall concluded:

> Based on the braking stability demonstrated during our on-site driving tests and the physical evidence showing that the vehicle was fully off the path as it tipped over, it is clear that the accident sequence must have been initiated by a sudden and significant steer that caused the vehicle to veer off the path. Furthermore, if braking was applied it must have occurred after this steering input. Given the golf car's top speed and the coefficient of friction of the subject path, fully locked rear braking will slow the vehicle to 5mph in approximately 15 to 18 feet, and bring the vehicle to a full stop in approximately 17 to 20 feet. If braking had been applied prior to or at the same time as the steering input, the golf car either would not have traveled far enough to leave the path, or it would not have had the necessary speed after leaving the path to drive through the ropes and posts, furrow its wheels into the turf, and still have sufficient speed to roll over.

Id.

ii. David Bizzak's Opinion

In 1999, well before Matthew's accident, Bizzak conducted a series of stability tests on an E-Z Go TXT golf car. (Bizzak Report 7.) Bizzak "accelerated to the top speed of the car (approximately 14½ mph) while traveling on asphalt and then rapidly turned the steering wheel to simulate the execution of a rapid turn." *Id.* In the most extreme maneuver, Bizzak rotated the steering wheel 360 degrees and the "peak lateral acceleration experienced was on the order of 0.75g." *Id.* During this maneuver, Bizzak "experienced some difficulty in comfortably remaining in [his] seated position during the full course of the maneuver. Nonetheless, the golf car remained stable, and none of the tires came out of contact with the ground." *Id.* at 8. Bizzak states, therefore, that "[e]ven if one were to posit that an operator might make an abrupt turn while traveling down a slope, the data collected during [his] tests would indicate that the vehicle

would remain stable, at least up to a threshold at which the slope and lateral acceleration did not exceed 0.75." *Id.* Based on his tests, Bizzak concluded that a golf car traveling down a 10 degree slope would not exceed 0.75g, so long as the operator did not turn the steering wheel in excess of 180 degrees. *Id.* Bizzak reiterated that "this would be an extreme steering maneuver on the part of an operator and is not one that is consistent with the testimony of the manner in which the accident occurred." *Id.*

Bizzak went with Schwall to La Tourette in 2009 and 2011 to inspect the accident site and golf car, and he "participated in instrumented tests of the subject golf car in which the accident scenario opined by Mr. Seluga to have occurred was recreated." *Id.* at 1. Based on these inspections and the tests he ran with the subject golf car, Bizzak concluded:

> Analysis of physical evidence and instrumented testing of the subject golf car clearly indicates that the accident did not occur in the manner described by Mr. Valente nor did it occur simply as a result of a hard application of the brakes, as opined by Mr. Seluga. Rather, a critical review of the evidence indicates that the golf car overturned as a result of Mr. Valente steering or drifting off the cart path and coming into contact with the rope line adjacent to the path. The interaction of the car with the rope tripped the car and caused it to overturn.

Id. at 10.

iii. Reliability of Defendants' Expert Testimony

Plaintiffs do not challenge the qualifications of Defendants' experts but argue that their opinions "are not based on a reliable foundation as they cannot refer to any specific data or facts to support their conclusions." (Pl. Mem. 45.) Plaintiffs do not distinguish between Schwall and Bizzak in raising their challenges, and, therefore, the Court will address their challenges to the experts at the same time. First, Plaintiffs argue that the testimony of Schwall and Bizzak must be excluded because they do not have a proper basis for the values that they used for the coefficient of friction and steering inputs. *Id.* at 48–49. Plaintiffs contend that because Defendants' experts

could not determine the "exact slope" where the accident occurred, they could not "definitively determine the coefficient of friction where the accident occurred."[22] *Id.* at 49. The Court does not understand how Plaintiffs can make this argument, when Plaintiffs' expert, Seluga, used a flat area of the path by the maintenance shed in order to calculate the coefficient of friction. Moreover, the testing that Seluga did conduct on the actual slope is consistent with the values that Schwall and Bizzak obtained. (Def. Ex. G.) In any event, unlike Seluga, the coefficient of friction used by Schwall and Bizzak is supported by peer-reviewed literature and was tested on two parts of the actual slope where the accident occurred. (Tr. 246:12–17; Pl. Ex. 6; Schwall Report 9–10.)

Plaintiffs also argue that Defendants are not able to determine the exact steering input. (Pl. Mem. 51–52.) Matthew testified at his deposition that, at the time of the accident, he was driving straight down the path. (M. Valente Dep. 87:14–88:4.) He later submitted a declaration claiming that due to a curve in the path, he steered slightly to the left prior to the accident. (Pl. 56.1 ¶¶ 214–15.) Unlike Seluga, whose steering input was purported to be based on Matthew's description of the events that day, Defendants maintain that the accident could not have occurred unless Matthew had turned the wheel to the left significantly. Accordingly, their experts assumed a greater steer input. The degree of steering input is a disputed fact in this litigation. Matthew's own account of his steering input changed from his deposition to the affidavit submitted in support of Plaintiffs' motion for summary judgment. Any dispute regarding the assumptions of Schwall and Bizzak regarding the steering input or the exact location that

[22] Plaintiffs also attack the reliability of the October of 2011 testing results because the path had been repaved and adjustments were made to the subject golf car. (Pl. Mem. 46–50.) Schwall and Bizzak also conducted tests in July of 2009 before the path was repaved and without making any modifications to the golf car. (Tr. 219:20–220:6.) Plaintiffs' argument is without merit.

Matthew departed the path goes to the weight, not the admissibility, of the experts' opinions. *See Lidle ex rel. Lidle*, 2010 WL 2674584, at *9 (finding the expert's testimony to be reliable, even though "there is no way to determine the exact bank angle of the Aircraft on the date of the incident").

Plaintiffs also argue that there is no evidence or scientific support for Defendants' experts' conclusions that the golf car hit either the rope or a post, causing the rollover. (Pl. Mem. 51–52.) There is ample evidence in the record to support the theory that the golf car collided with either the rope or a post prior to rolling over. Matthew testified at his deposition that a series of posts, connecting a rope, ran along the left side of the path. (M. Valente Dep. 88:21–11.) A photograph taken in the days after the accident showed a knot in the rope by the scene of the accident, suggesting that the rope had been broken. (Schwall Report 5–6.) In addition, there was a dent in the passenger side of the floorboard consistent with impact with a solid object. (Bizzak Report 10; Schwall Report 5.) Schwall also observed paint transferred onto the front right wheel, which could have been the result of hitting a post. (Schwall Report 6.) Moreover, Douglas Lopez, an eyewitness, testified that he believed that the golf car made contact with an object prior to flipping. (Deposition of Douglas Lopez ("Lopez Dep.") 21:17–22:14.) Defendants' experts conducted driving tests of the golf car on the actual slope in order to rule out the possibility that the accident occurred as Matthew described, but the golf car remained stable. (Schwall Report 11; Bizzak Report 10–11.) As Schwall explained, "[i]n order to tip over, the vehicle required both a tripping mechanism and sufficient lateral velocity to possess the kinetic energy required to roll over." (Schwall Report 11.) Moreover, Seluga, Plaintiffs' own expert, testified that if the posts and rope played a role in the accident then the yaw instability would not

have had to be sufficient to cause a rollover but merely to cause the car to leave the path and interact with the rope and the posts. (Tr. 27:22–28:3.)

The Court finds that Defendants have met their burden of establishing that the testimony of Schwall and Bizzak meets the requirements of Rule 702, and Plaintiffs' motion to exclude their testimony is denied.[23]

III. Motions for Summary Judgment

a. Standard of Review

Summary judgment is proper only when, construing the evidence in the light most favorable to the non-movant, "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a); *see also Redd v. N.Y. Div. of Parole*, 678 F.3d 166, 173 (2d Cir. 2012). The role of the court is not "to weigh the evidence and determine the truth of the matter but to determine whether there is a genuine issue for trial." *Cioffi v. Averill Park Cent. Sch. Dist. Bd. of Educ.*, 444 F.3d 158, 162 (2d Cir. 2006) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986)). A genuine issue of fact exists when there is sufficient "evidence on which the jury could reasonably find for the plaintiff." *Anderson*, 477 U.S. at 252. The "mere existence of a scintilla of evidence" is not sufficient to defeat summary judgment; "there must be evidence on which the jury could reasonably find for the plaintiff." *Id.* The court's function is to decide "whether, after resolving all ambiguities and drawing all inferences in favor of the non-moving party, a rational juror could find in favor of that party." *Pinto v. Allstate Ins. Co.*, 221 F.3d 394, 398 (2d Cir. 2000).

[23] Plaintiffs also argue that the testimony of Schwall and Bizzak is duplicative. (Pl. Mem. 57.) Because the Court is granting Defendants' motion for summary judgment and dismissing the Complaint, the Court need not decide whether the testimony is duplicative.

b. Strict Products Liability and Negligence

"Under New York law, a plaintiff asserting a claim for defective design must show that (1) the product, as designed, posed a substantial likelihood of harm; (2) it was feasible to design the product in a safer manner; and (3) the defective design was a substantial factor in causing the plaintiff's injury." *Rupolo v. Oshkosh Truck Corp.*, 749 F. Supp. 2d 31, 42 (E.D.N.Y. 2010). The plaintiff bears the burden of showing "that *a defect* in the product was a substantial factor in causing the injury." *Kosmynka v. Polaris Indus., Inc.*, 462 F.3d 74, 86 (2d Cir. 2006) (emphasis in original) (quoting *Fritz v. White Consol. Indus., Inc.*, 762 N.Y.S.2d 711, 714 (App. Div. 2003)). A product is defective for the purposes of negligence or strict products liability, "if it is 'not reasonably safe.'"[24] *Macaluso v. Herman Miller, Inc.*, No. 01 Civ. 11496, 2005 WL 563169, at *5 (quoting *Denny v. Ford Motor Co.*, 87 N.Y.2d 248, 258 (1995)). The issue of whether a product is reasonably safe for its intended use "is determined by whether a reasonable person with knowledge of the potential for injury of the product and of the available alternatives, balancing the product's risks against its utility and costs and against the risks, utility and cost of the alternatives, would have concluded that it should not have been marketed in the condition that it was." *Saladino v. Stewart & Stevenson Servs., Inc.*, No. 01 Civ. 7644, 2007 WL 4285377, at *4 (E.D.N.Y. Dec. 3, 2007) (quoting *Cover v. Cohen*, 61 N.Y.2d 261, 266–67 (1984)). A plaintiff is generally required to provide expert testimony in order to establish the feasibility and efficacy of an alternative design, unless "a reasonable alternative design is both obvious to, and understandable by, a layperson." *Soliman v. Daimler AG*, No. 10 Civ. 408, 2011 WL 4594313,

[24] "In a design defect case, there is almost no difference between a prima facie case in negligence and one in strict liability." *Rupolo v. Oshkosh Truck Corp.*, 749 F. Supp. 2d 31, 43 n.4 (E.D.N.Y. 2010) (quoting *Searle v. Suburban Propane Div. of Quantum Chem. Corp.*, 700 N.Y.S.2d 588, 591 (App. Div. 2000)); *see also Saladino v. Stewart & Stevenson Servs., Inc.*, No. 01 Civ. 7644, 2007 WL 4285377, at *5 (E.D.N.Y. Dec. 3, 2007) ("New York courts have treated the differences between negligence and strict liability as inconsequential.").

at *3 (E.D.N.Y. Sept. 30, 2011) (quoting *Guarascio v. Drake Assoc.*, 582 F. Supp. 2d 459, 463 (S.D.N.Y. 2008)).

Having excluded the testimony of Plaintiffs' experts, Plaintiffs do not have any evidence that the golf car had a defect — let alone that the defect was a substantial factor in causing the injury — or any evidence of the feasibility of an alternative design that would have prevented the accident. *See Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 271 (2d Cir. 2002) (affirming the district court's grant of summary judgment because, without the expert evidence, the plaintiffs did not have "any admissible evidence in support of their theory of causation"); *Brooks v. Outboard Marine Corp.*, 234 F.3d 89, 92 (2d Cir. 2000) ("Having determined that the district court acted within its discretion in excluding [the plaintiff's expert testimony], the plaintiff has no evidence in the record to support his theory that the motor had a design defect which caused the accident or increased its severity."); *Fernandez*, 670 F. Supp. 2d at 188 ("Having ruled that plaintiff's proposed expert testimony is inadmissible, plaintiff 'has no evidence to support his claims that amounts to anything more than that he was injured' while using the [the product] manufactured by defendants." (alterations omitted) (quoting *Mannix v. Chrysler Corp.*, No. 97 Civ. 1944, 2001 WL 477291, at *5 (E.D.N.Y. Mar. 4, 2001))).

Plaintiffs argue that, even without their expert testimony, they can establish a design defect claim through circumstantial evidence. (Pl. Opp'n 53–54.) A plaintiff is not required to prove a specific defect, if he or she can establish through circumstantial evidence that the product did not perform as intended and can exclude all causes for the injury other than the defendant's defective product.[25] *State Farm Fire & Cas. Co. v. Nutone, Inc.*, No. 05 Civ. 4817, 2010 WL

[25] Although Defendants argue that circumstantial proof is only permitted in support of a manufacturing defect, courts have found that a plaintiff may prove a design defect through circumstantial evidence. *See e.g.*, *Buckley v. Gen. Motors Corp.*, No. 98 Civ. 4366, 2004 WL

3154853, at *7 (E.D.N.Y. Aug. 9, 2010), *aff'd*, 426 F. App'x 8 (2d Cir. 2011); *see also Jarvis v. Ford Motor Co.*, 283 F.3d 33, 44 (2d Cir. 2002) ("The New York Court of Appeals has held that a plaintiff's failure to prove why a product malfunctioned does not necessarily prevent a plaintiff from showing that the product was 'defective.'"). Even though a plaintiff may rely on circumstantial evidence to establish a defect, "if a defendant comes forward with any evidence that the accident was not necessarily attributable to a defect, the plaintiff must then produce direct evidence of a defect." *Giordano v. PGT Indus., Inc.*, No. 04 Civ. 9246, 2007 WL 4233002, at *4 (S.D.N.Y. Nov. 30, 2007) (quoting *Winckel v. Atl. Rentals & Sales, Inc.*, 557 N.Y.S.2d 951, 953 (App. Div. 1990) (collecting cases)).

Even if Plaintiffs could establish that the golf car did not perform as intended, they cannot demonstrate that the accident was "solely the result of causes other than product defect" nor can they put forth any evidence of a specific defect to overcome Defendants' evidence of other causes. *Speller v. Sears, Roebuck & Co.*, 100 N.Y.2d 38, 42 (2003) (citation omitted). Defendants have presented evidence that rear-wheel brakes do not cause yaw instability, when a golf car is driven under the conditions described by Plaintiff. Defendants have also presented evidence that the accident occurred because the golf car collided with either the rope or posts that border the left side of the path. Plaintiffs do not dispute that Matthew was turning the steering wheel at the time of the accident, and the physical evidence and eyewitness testimony suggests that the golf car collided with a solid object. Plaintiffs do not have any direct evidence of a defect or any evidence to exclude these other possible causes. *See Yaccarino v. Motor Coach Indus., Inc.*, No. 03 Civ. 4527, 2006 WL 3257220, at *3 (E.D.N.Y. Nov. 9, 2006) ("Because

725933, at *2 (S.D.N.Y. Apr. 2, 2004) ("To prevail in a design defect case, a plaintiff need not present proof of a specific defect, but rather may satisfy her prima facie burden by presenting circumstantial evidence of a defect." (citing *Jarvis v. Ford Motor Co.*, 283 F.3d 33, 46 (2d Cir. 2002))).

Plaintiff offers no direct evidence to exclude these plausible, alternative causes of the incident, Plaintiffs' claims cannot survive Defendant's motion for summary judgment."). Defendants' motion for summary judgment is granted as to Plaintiffs' strict products liability and negligence claims.

c. Breach of Implied Warranty

Unlike strict products liability, a breach of implied warranty claim does not require a risk-utility balancing analysis, and, instead, only requires that the plaintiff prove that the product was not "reasonably fit for the ordinary purpose for which it was intended." *Horowitz v. Stryker Corp.*, 613 F. Supp. 2d 271, 284 (E.D.N.Y. 2009) (quoting *Denny*, 87 N.Y.2d at 265). Thus, "it could be said that a breach of implied warranty claim is the 'stricter' form of liability, since recovery hinges only upon a showing that the product is not minimally safe for its intended purpose, without regard to the feasibility of an alternative design or any of the other considerations taken into account in the strict products liability calculus." *Donald v. Shinn Fu Co. of Am.*, No. 99 Civ. 6397, 2002 WL 32068351, at *4 (E.D.N.Y. Sept. 4, 2002) (citing *Denny*, 87 N.Y.2d at 259). Still, a "warranty of fitness for ordinary purposes does not mean that the product will fulfill [a] buyer's every expectation." *Scientific Components Corp. v. Sirenza Microdevices*, Inc., 399 F. App'x 637, 640 (2d Cir. 2010) (alteration in original) (citation and internal quotation marks omitted). "Instead, recovery for breach of the implied warranty of merchantability is warranted 'upon a showing that the product was not *minimally* safe for its expected purpose.'" *Humphrey v. Diamant Boart, Inc.*, 556 F. Supp. 2d 167, 183 (E.D.N.Y. 2008) (emphasis added) (quoting *Denny*, 87 N.Y.2d at 256).

There is no dispute that driving a golf car at a golf course is the ordinary purpose for which it was intended. Plaintiffs have not offered any evidence to suggest that the golf car in

question was not minimally safe for that purpose. Plaintiffs do not have any evidence of a defect in the golf car, as it was designed or manufactured. Plaintiffs have not presented any evidence that distinguishes the design of this golf car with any other golf car built by Textron or by any other golf car company. Moreover, the golf car complied with all relevant industry standards. (Def. 56.1 ¶¶ 153–55.) In support of their claim, Plaintiffs cite to the "frequency of golf-car related accidents," noting that there were over 17,000 golf-car accidents in 2007, the year of Matthew's accident. (Pl. Opp'n 10–11.) Plaintiffs claim that ten percent of these accidents involved a rollover. *Id.* at 11. However, Plaintiffs do not provide the Court with information regarding the total number of golf cars used in a given year or any other marker, which could be used in order to assess the statistical significance of these numbers. Moreover, Plaintiffs do not provide any detail regarding the nature of these accidents, which could have been the result of any number of causes, including but not limited to, malfunctioning equipment, reckless drivers or the actions of a third party. *Id.*

Plaintiffs have not presented any admissible evidence from which a reasonable jury could infer that the subject golf car was not minimally safe for its ordinary purpose. *See In re Fosamax Products Liab. Litig.*, 2013 WL 76140, at *6 ("Plaintiff has failed to adduce sufficient evidence for the Court to find that Fosamax is not minimally safe, given that millions of prescriptions for Fosamax have been issued, and that Fosamax has been proven effective for fracture reduction. The incidence rate of [osteonecrosis of the jaw] among Fosamax users is so low that no reasonable juror could conclude that Fosamax was not minimally safe."). Defendants' motion for summary judgment is granted with respect to Plaintiffs' breach of implied warranty claim.

d. Failure to Warn

To establish a claim for failure to warn, a plaintiff must prove "(1) a manufacturer has a duty to warn (2) against dangers resulting from foreseeable uses about which it knew or should have known, and (3) that failure to do so was the proximate cause of the harm." *State Farm Fire & Cas. Co. v. Nutone, Inc.*, 426 F. App'x 8, 10 (2d Cir. 2011) (citing *Liriano v. Hobart Corp.*, 92 N.Y.2d 232, 237 (1998)); *see also Bravman v. Baxter Healthcare Corp.*, 984 F.2d 71, 75 (2d Cir. 1993) ("A plaintiff proceeding under a failure-to-warn theory in New York must demonstrate that the failure to warn adequately of the dangers of a product was a proximate cause of his or her injuries." (citing *Glucksman v. Halsey Drug Co., Inc.*, 553 N.Y.S.2d 724, 726 (App. Div. 1990))). "As part of satisfying those elements, a plaintiff is 'required to prove that the product did not contain adequate warnings.'" *Reed v. Pfizer, Inc.*, 839 F. Supp. 2d 571, 575 (E.D.N.Y. 2012) (quoting *Mulhall v. Hannafin*, 841 N.Y.S.2d 282, 285 (App. Div. 2007)).

Plaintiffs have not offered any admissible evidence to establish that the warnings on the golf car were inadequate or that the failure to include an adequate warning was a proximate cause for Matthew's injuries. *See Walsh v. Hayward Indus. Products, Inc.*, 7 F. App'x 72, 73 (2d Cir. 2001) ("As to his claim for failure to warn, Walsh failed to produce evidence showing that the valves were dangerous as manufactured, or that a warning would have prevented his injury."); *Delehanty v. KLI, Inc.*, 663 F. Supp. 2d 127, 134 (E.D.N.Y. 2009) ("Based on the evidence offered by Plaintiffs, or rather the lack thereof absent Fein's precluded opinions, they cannot establish facts sufficient to establish either that the ladder was defectively designed, or that the design was the proximate cause of Mr. Delehanty's injury. Similarly, Plaintiffs offer no evidence that there was a reasonably foreseeable risk, let alone that Defendants' failure to warn

users was the proximate cause of Mr. Delehanty's injury."). Defendants' motion for summary judgment is granted as to Plaintiffs' failure to warn claim.

e. Loss of Consortium

A claim for loss of consortium is derivative of the underlying claims. *Gelber v. Stryker Corp.*, 788 F. Supp. 2d 145, 167 (S.D.N.Y. 2011); *see also Delehanty*, 663 F. Supp. 2d at 134 ("[U]nder New York law, Mrs. Delehanty's claim [for loss of consortium] must also be dismissed because Mr. Delehanty's causes of action fail."). Having dismissed all of Matthew Valente's claims, James Valente's claim for loss of consortium must also be dismissed.

IV. Conclusion

For the foregoing reasons, the Court excludes the testimony of Kristopher Seluga and Bruce Gorsak, Plaintiffs' experts, and grants Defendants' motion for summary judgment on all claims. The Court denies Plaintiffs' motion to exclude the testimony of Defendants' experts, Matthew Schwall and David Bizzak, and for summary judgment. The Complaint is dismissed in its entirety, and the Clerk of Court is directed to close this case.

SO ORDERED:

s/MKB
MARGO K. BRODIE
United States District Judge

Dated: March 18, 2013
Brooklyn, New York